

# Treatment Document

Louis Birch

<http://www.louisbirch.co.uk/>

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## Contents

Treatment Document .....	1
Executive Summary .....	2
Game Overview.....	3
Genre .....	3
License .....	3
Controls.....	3
Gameplay & Design .....	4
Technology.....	4
Audio.....	5
Hardware Required To Play The Game.....	5
Production Details.....	5
Project Status .....	5
Development Team .....	5
Development Plan .....	5
Game world.....	6
Back Story & Objectives .....	6
Characters .....	6

## Executive Summary

Throughout this project there will be multiple pieces of character work that will be able to be viewed in a Fortnite / Overwatch style character viewing system. This system will allow the player to switch

between multiple different camera angles or selecting a free move camera where they can look around the character model in a 360 view, turn particles on or off and switch between the different models with ease.

## Game Overview

### Genre

3D Character Art Showcase

### License

While this project does not follow any particular IP / Licence it does, however, have similar ideas to games that have implemented character viewers. This includes games like Fortnite, Call of Duty: Cold War as they both allow the player to view the characters and skins they have unlocked in the game. This viewer lets them rotate the character or the camera around the character so that they can view the character from different angles. In Fortnite the viewer also allows the player to preview emotes which can be used within the game.

### Controls

#### Current controls

Mouse Left Click – Press buttons on screen – pressing on screen in game will also remove mouse input so buttons cannot be pressed.

CTRL – Brings up ui onto screen so player can press buttons that will change specific features on the characters such as the skin variant or even the character model itself – Pressing this button again will also remove the ui from the screen and set the gamemode input back to game hiding the mouse.

ESC – Bring up the pause menu for the game.

WASD – These buttons will move the camera that is on the viewer itself. W will be used to move the camera up, S will be used to move the camera back down, A will be used to move the camera left and, D will be used to use to move the camera left.

Mouse Axis – This will be used to also move the camera opposed to just using the WASD keys.

Middle Mouse Scroll – Will change the zoom of the free camera.

## CAMERA MOVEMENT



## CAMERA ZOOM



## INTERACT



## TOGGLE UI



## PAUSE GAME



## Gameplay & Design

### Win Condition(s)

There is currently no method of winning on this project as it is designed to be a showcase of different character models which can be viewed in game by a player.

### Lose Condition(s)

There is currently no method of losing on this project as it is designed to be a showcase of different character models which can be viewed in game by a player.

### Gameplay Overview

Gameplay Overview

## Technology

One of the pieces of technology this project is using is a feature called RTX, or Ray Tracing. This feature can cause big performance issues when enabled on a graphics card that does not have RT Cores. However, one of the main reasons as to why the project might have frame rate issues even on current RTX cards is due to it not running any kind of DLSS (Deep learning super sampling) which is an AI rendering technology that can take lower resolutions and super sample them to a higher resolution, this uses Tensor Cores on the GPU to then scale a 1080p resolution up to 4K without impacting the frames per second that the player is getting. DLSS is currently a feature that I am unable to implement into this project due to it being supported on a newer version of the engine since it is currently a beta plugin and experimental, however, once DLSS becomes more mainstream

in the games industry I would expect it to be implemented into the project to allow the RTX features to run much smoother or just improve FPS in general.

## Audio

Sounds currently in the project.

- N/A

## Hardware Required To Play The Game

Recommended PC Specification for Final Product.

Non RTX:

Intel Core i3, GTX 960, 8GB Ram, HDD 5GB or more. (Can change)

RTX:

Intel Core i9, RTX 3080, 16GB Ram, SSD 5GB or more.

## Production Details

### Project Status

The development of the project will be focused over the space of 12 weeks, with the modellers developing their custom characters and the two technical developers working with each other to work on separate parts of the project, and then merge both aspects of it together once they're ready to be combined.

### Development Team

The project will be developed by two technical developers who will focus on different parts of the project – one of the technical developers will be working on more of the actual viewer system along with some of the mechanics to go with it, such as:

- Weather system such as snow
- Camera System with multiple different cameras and a free camera
- Being able to switch between multiple characters.

While the other technical developer will work on more stuff along the lines of

- UI Elements
- Main Menu / Pause Menu
- Ray Tracing Settings
- Level

There will be 3-character modellers all of which designing one character model of their own that can then be rigged and imported into Unreal Engine 4 to be showcased. This character will have a set stance along with the user being able to switch between different skin variants if it has more than one designed for it.

### Development Plan

Character Models

- High Poly model creation for the characters that will be put into the viewer.

- Retop the high poly models to make them lower poly and game ready so that they can be imported into the engine.
- Texture the retopped character model so that they look the correct way the modelers want them to look.
- Rig the models if possible so that they can be imported into unreal engine 4 and have animations applied to them (if not possible Maximo will be used to rig the models.)

### Design / Tech

- Design the character viewer along with camera switch / movement system.
- Design a particle effect, or multiple if time allows, to fit the design of the project and give more life to the viewer.
- Design the ui for the projects main menu and pause menu, along with implement some kind of ray tracing settings that can be toggled on and off at any point during play.
- Add in ui elements for the viewer so that the user can switch between characters and cameras with ease (this could include keyboard shortcuts, but with visual buttons to press also.)
- Design a level for the character showcase to be set in – ideally should fit a theme.

## Game world

### Back Story & Objectives

The project will not have any kind of back story or game objective due to it being a character viewer. The only objective for this project is to allow the player to have an exploration of different characters designed with a similar artistic style in mind.

### Characters

There will be 3 characters in this project viewer which consist of:

- Demon 1
- Demon 2
- Human

Characters will be showcased throughout a museum type showcase world. All of the characters will load in at the same time, and the player will be able to switch through them all changing poses or animations, along with moving a camera or changing a static camera position to view them in different angles / positions.